

Rural Telecommunications

(0) Guidance

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Personnel

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Background

- Telecommunication infrastructure
 - is indispensable for the development of the industry and economy.
- Imbalance of the distribution
 - very severe in rural and remote areas
 - intolerable for the long time
- Progress of telecommunication systems
 - From voice to data
 - Convergence to IP network

Syllabus

- Historical overview
 - Role of telecommunications
 - Rural telecommunications - "Missing Link"
- Role of telecommunications in the developing areas
- Current status of the rural telecommunications
- Rural applications of telecommunications
- New technologies for rural applications
 - Access technologies
 - Network technologies
- Case studies

Grading Criteria

- Report
 - With respect to relevant topics, students shall report the summary.
- Case presentation
 - Each individual student is assigned a case, and shall present the summary and the analysis of the case.

Small Assignment

- What is “development” in your opinion?
 - Note: Not “development” used in R&D
 - Please send your opinion by October 15 to Abdur by e-mail

Textbooks / Reading Materials

- Report of the Independent Commission for Worldwide Telecommunications Development “The Missing Link,” December 1984.
- Tim Kelly, “Twenty Years of measuring the Missing Link,” October 2005.
 - <http://www.itu.int/osg/spu/sfo/missinglink/index.html>
- Other materials to be assigned later on.

Web Page for the Course

<http://portal.uml.gsic.titech.ac.jp/moodle/course/view.php?id=3>

- Login account can be created by user.

<http://portal.titech.ac.jp/>

- Contents to be distributed also by OCW-i

Difficulties in Rural Areas

- Low population density and long distances between settlement areas
- Unfavorable geographic and climatic conditions
- Unfavorable access from urban centers
- Low educational level, high illiteracy rate
- Hardly any job opportunities
- Low income per capita and per family

Difficulties in Rural Areas

- Increasing migration of the young to urban centers
- Unreliable and badly functioning (public) transport
- Irregular, if any, power supply
- Poor health care and medical services
- Lack of other government services
- Little participation in national affairs

Difficulties in Rural Area (input from students)

- Geographic difficulty
 - Mountain areas
 - Remote islands
- Few experts of telecommunications for maintenance and drainage
- Security of infrastructure (thieves etc)
- Private companies avoid the service in rural areas
- Political instability and unsecure situation in some rural areas

Difficulties in Rural Area (input from students)

- Ethics
 - In Bali, traditional regulation prohibits to build high tower
 - Conflict between traditional idea and new technology, e.g. Internet provides pornography

Telecommunications in Rural Area

- To trigger and sustain structural and economic development
- To improve the quality of life in rural and remote areas
 - Improvement of health and education through the use of telecommunications
 - New industries and other commercial operations
 - Security
 - elimination of feelings of isolation
 - improvement of government administration

Telecommunications in Rural Area (input from students)

Reading Assignment

Report of the Independent Commission for
Worldwide Telecommunications Development
“The Missing Link,” December 1984.

- <http://www.itu.int/osg/spu/sfo/missinglink/index.html>
- Read page 1-70 of the above document.
When you read it, report about the following items by October 27 (to Abdur):
 1. What are the roles of telecommunications? After 20 years, what are obsolete roles?
 2. Itemize the issues about the telecommunications development.
 3. List the available technologies to solve the problems. After 25 years, what are the significant changes?

Lecture Schedule

- October 8
- November 5, 12, 19, 26
- December 3, 10, 17
- January 7, 21, 28